

REMARKS

By this Amendment, claims 3, 8, 10, 11 and 12 have been amended, and claim 22 has been added. Accordingly, claims 3, 4, 6, 8, 10, 11, 12 and 22 are pending in the present application.

Claims 3, 4 and 6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 2,779,925 to Black. Applicants respectfully traverse this rejection.

Among the limitations of independent claim 3 which are neither disclosed nor suggested in the prior art of record is a coaxial resonator which includes “a non-conducting element disposed between the columnar element and the dielectric element”, wherein “a thickness of the conductor layers and a thickness of the dielectric layers are based on the non-conducting element” and “the non-conducting element is air”.

The non-conducting element of the present invention between the columnar element and the dielectric element has not been taken into consideration when the thickness of the conductor layers and the thickness of the dielectric layers are determined. In fact, it has been believed by those of skill in the art that a multi-layer electrode cannot have a low-loss characteristic when a non-conducting element, especially air, is placed between a columnar element and dielectric element.

Black does not teach or suggest these combined limitations. While Black is directed to a composite coaxial resonator, it neither teaches nor suggests that a non-conducting element of air disposed between the columnar element and the dielectric element as required by independent claim 3. In fact, inasmuch as Black teaches that there is an intermediate dielectric member 18 disposed between the central core 11 and the outer conductor 15, it specifically teaches from the present invention as defined in independent claim 3. Accordingly, it is respectfully submitted that independent claim 3 patentably distinguishes over the art of record.

Claims 4 and 6 depend directly from independent claim 3 and include all of the limitations found therein as well as additional limitations which, in combination with the limitations of independent claim 3, are neither disclosed nor suggested in the prior art of record. Accordingly, claims 4 and 6 are likewise patentable.

Claims 8 and 10-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,293,141 to Kobayashi et al. in view of Black. Applicants respectfully traverse this rejection.

Similar to independent claim 3, each of independent claims 8 and 10-12 require that the non-conducting element is air and is disposed between the columnar element and the dielectric element, and that the thickness of the conductor layers and the thickness of the dielectric layers are based on the non-conducting element.

As described above, Black neither teaches nor suggests that a non-conducting element of air disposed between the columnar element and the dielectric element. In fact, inasmuch as Black teaches that there is an intermediate dielectric member 18 disposed between the central core 11 and the outer conductor 15, it specifically teaches from the present invention as defined in independent claims 8 and 10-12.

Kobayashi et al. does not remedy any of the deficiencies of Black. Nowhere within Kobayashi et al. is it disclosed or suggested, to place a non-conducting element of air between a columnar element and dielectric element, let alone base the thickness of the conductor layers and the thickness of the dielectric layers on the non-conducting element as required by independent claims 8 and 10-12.

Therefore, even if one were to combine the teachings of Kobayashi et al. and Black, one would not arrive at the present invention as defined in independent claims 8 and 10-12. At best, one would arrive at a structure that includes a coaxial resonator having an intermediate dielectric member disposed between the central core and the outer conductor

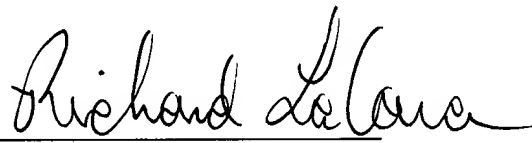
as taught by Black. Accordingly, it is respectfully submitted that independent claims 8 and 10-12 patentably distinguish over the art of record, and reconsideration and withdrawal of this rejection is respectfully requested.

New claim 22 has been added to more fully cover the scope of the present invention. Consideration and allowance of new claim 22 is respectfully requested.

In view of the foregoing, favorable consideration of the amendments to claims 3, 8 and 10-12, favorable consideration of new claim 22, and allowance of the present application with claims 3, 4, 6, 8, 10-12 and 22 is respectfully and earnestly solicited.

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Respectfully submitted,

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